

**ABSTRACT**

A novel process for fabricating low cost RFID devices in which a pattern of metallic toner is printed on a substrate and the contacts on a silicon die are placed directly on  
5 contact points printed as part of the pattern of metallic toner; the whole device is then heated to both cure the metallic toner into metallic conductors and bond the silicon die to the metallic conductors. Alternatively, the silicon die can be physically attached to the substrate and the electrical pathway between the silicon die and the metallic  
10 conductors is established via a transformer coupling comprised of a coil winding on the silicon die and a pattern of coils printed as part of the metallic toner pattern. The pattern of coils can be comprised of individually printed coil loops printed on, and separated by, dielectric layers.